DOCUMENT RESUME

ED 294 573 IR 013 240

AUTHOR	Quigley, Brooke
TITLE	Using Video to Enhance Instruction.
INSTITUTION	Washington Univ., Seattle. Center for Instructional Development and Research.
PUB DATE	86
NOTE	70p.; Paper identified by the Task Force on Establishing a National Clearinghouse of Materials Developed for TA (Teaching Assistants) Training.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	*Educational Objectives; *Educational Resources; Higher Education; *Instructional Effectiveness; Teacher Education; *Teaching Methods; *Videodisks; *Videotape Recordings
IDENTIFIERS	Teaching Assistant Training Project; University of Washington

ABSTRACT

The first of eight major sections in this report on the use of instructional video at the University of Washington focuses on the usefulness of video. The second section provides an overview of videotape and videodisc technology, and the third lists instructional goals which may be achieved through instructional video. Examples of the use of video to present course information through the direct presentation of content or through interactive learning programs are given in the fourth section for sociology, electrical engineering, life sciences, physiological nursing, and business classes. The fifth section contains examples of the use of video to teach professional skills in law, speech, social work, dentistry, and communications classes. Examples of the use of video to improve teaching effectiveness by showing professionally-produced videotapes about teaching and by videotaping instructors are presented in the sixth section for geography, bioengineering, English as a second language, and sociology classes. The instructional goals, the advantages of video, and instructional procedures are discussed for all of the examples. Precautions for the planning, implementation, and follow-up stages of video application are suggested in the seventh section, and campus resources for video use are described in the eighth. (16 references) (MES)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

IR013240

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Jody D. Nyquist

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Using Video to Enhance Instruction

Brooke Quigley
Staff Associate

© 1986

Center for Instructional Development and Research
107 Parrington Hall, DC-07
Seattle, WA 98195
(206) 543-6588

Jody Nyquist
Director for Instructional Development

Robert Abbott
Director for Program Research

University of Washington

The materials in the Special Collection on the Training of Teaching Assistants were developed through the active efforts of numerous educators who first met at the 1986 National Conference on the Institutional Responsibilities and Responses in the Employment and Education of Teaching Assistants held at the Ohio State University. Assisted by more than 80 individuals, the committee chairs listed below were able to establish the collection which will be developed and maintained by the ERIC Clearinghouse for Higher Education. This arrangement will enable faculty members, faculty developers, administrators, TA supervisors, and graduate teaching assistants to have access to TA training materials produced by institutions across the nation.

Task Force on Establishing a National Clearinghouse of Materials Developed for TA Training

Chair: Jody Nyquist, University of Washington

Subcommittees

ERIC Collection Committee-	Chair: Margaret Pryately University of Oklahoma
Council of Graduate Deans Clearinghouse -	Chair: Sheila Caskey Southeast Missouri State University
Exploration of a Review Process -	Chair: Lynda Morton University of Missouri

ERIC Clearinghouse on Higher Education - Marilyn Shorr

Clearinghouse on ITA Materials - Janet Constantinides

CONTENTS

I. WHY USE VIDEO 1

II. VIDEOTAPE AND VIDEODISC 6

III. USING VIDEO: AN OVERVIEW 14

IV. USING VIDEO TO PRESENT COURSE INFORMATION 18

Sociology 19

Electrical Engineering 21

Life Sciences 24

Physiological Nursing 26

School of Business 28

V. USING VIDEO TO TEACH PROFESSIONAL SKILLS 30

School of Law 31

Speech Communication 33

School of Social Work 35

School of Dentistry 38

School of Communications 40

VI. USING VIDEO TO IMPROVE TEACHING EFFECTIVENESS 43

Geography 44

Bioengineering 46

English as a Second Language 48

Sociology 50

VII. A WORD OF CAUTION 52

VIII. CAMPUS RESOURCES 59

IX. REFERENCES 64

I

WHY USE VIDEO?

Even experienced teachers sometimes find there is a difficult unit or fundamental concept they simply are not teaching effectively in a course. Or, instructors find they are using valuable class time to repeat basic information that students should have mastered before entering the course. Other instructors may notice that students perform better when given greater personal responsibility and independence. For these and a host of other reasons, many faculty have turned to video technology to help solve persistent instructional problems or to enhance general teaching effectiveness.

Instructional video, in the form of cable television and related technologies, became available in the 1950's. Since that time, television has been employed in higher education both as a delivery system for reaching off-campus students and as an aid to the instructor within the traditional classroom. There now exists an impressive array of video applications available for instruction, including such diverse types as videotex, cablearn, and satellite telecommunications. This wider range of applications is referenced

in this booklet but is not its focus. Instead, the concentration here is on just two types of technology--videotape and videodisc--in their application as compact, self-contained tools in a cross section of courses at the University of Washington. Used as an adjunct to teaching, the videotape playback unit especially has become a convenient tool for instructors who wish to clarify or dramatize particular concepts in the classroom, provide students with basic information outside class hours, or facilitate students' independent learning. Currently, the development of videodisc technology promises to add greatly to the repertoire of tools an instructor may use in such classroom or individualized learning contexts.

Given that video technologies are useful in numerous applications, it is important that instructors know what equipment is available and how it can best be used. This booklet describes a small sample of the many courses where instructors on this campus now use videotape and videodisc to enhance their teaching. The purpose of the booklet is threefold:

to identify some of the instructional goals for which videotape and videodisc are currently being used;

to describe the instructional or training procedures for using video; and

to identify campus resources available for instructors who wish to develop or use instructional video.

Material in this resource booklet is presented from the perspective that the use of technology is only one component of the complex, interrelated system of activities that constitutes the teaching of a course. Unlike many other contexts where individuals watch a television screen, the use of video for instruction is active; the instructor and students control how the content is presented and discussed, adapting video to their specilfic needs. As a tool, video is not viewed as technology *per se*, but as technology used to achieve specific instructional goals within the design of a course or an independent program of learning. Accordingly, the descriptions of actual video use in this booklet begin, in each case, with the identification of an instructional goal. The procedure for using video follows from that goal. Also mentioned in the examples presented here are the advantages or drawbacks that instructors have experienced when using video in a particular setting.

Disciplines are specific--instructional needs vary considerably, depending on course content or particular student populations. Hence, examples included in this booklet range from using videodisc to teach pathology assessment in Nursing to using videotape to teach interviewing skills in Social Work. Yet, even though course content will differ among departments, instructional goals can sometimes be quite similar. For example, a number of disciplines are interested in teaching interviewing or counseling skills; in Dentistry, Social work, Speech Communication, Psychology, and Speech and Hearing Science, students must master a particular set of interpersonal skills to manage the professional/client relationship effectively. Although the content in these disciplines differs, instructors use video recording in some similar ways to provide students with practice and the opportunity for self critique. One purpose of this booklet is to facilitate discussion among instructors who have common teaching goals which the use of instructional video can serve.

The following pages provide a brief description of videotape and videodisc technologies now being used as adjuncts to traditional classroom teaching on this campus. The bulk of the booklet

describes how video has been integrated into the framework of a variety of courses currently being taught. Also included in the booklet is an indication of common problems one should avoid when applying video to teaching and a listing of units or departments on this campus which offer advice to those wishing to use video technology. Optimally, the information presented here will help instructors select, implement, and evaluate video technology effectively.

II

VIDEOTAPE AND VIDEODISC

The instructional video described in this booklet is of two types--videotape and videodisc. Either can be operated as a self-contained system, controlled by the instructor in the classroom or by the student working alone. Videotape technology, already well established, is more readily available but the disc technology is rapidly developing and presents attractive options for education. In some instances, features of both tape and disc technology are combined in a single tool. In the following paragraphs, however, videotape and videodisc will be discussed as distinct systems.

Videotape

Videotape is a system through which television pictures and sound can be recorded and played back using magnetic tape. For playback (for showing tapes), the components needed are: the video cassette recorder (VCR), the television monitor or screen, and the tape (a cassette). For recording (producing a tape to show), a video camera and microphone are required in addition to the equipment already mentioned. Recording can be done in black and white or

color, the former being substantially cheaper. The commonly used tapes are 3/4" or 1/2" (with 1/2" being available in VHS or Beta formats). Many departments use and re-use a pool of tapes, reserving new tapes for projects that are to be saved.

Video playback: Once set up, videotape equipment is easy to operate for simple playback purposes. There are a number of professionally produced tapes available that can, with permission, be used for instruction. Films and videotapes on numerous topics are listed in Educational Media Collection, a book that can be obtained by contacting Instructional Media Services (IMS), 35D Kane Hall. In addition, the Center for Instructional Development and Research (CIDR), 107 Parrington Hall, houses a number of tapes concerning teaching effectiveness. When used for instruction or training, videotapes can be played in their entirety or in sections; images can be stopped for a brief period of time or, on some machines, shown in slow motion. Sections of tape can be shown repeatedly, although it is awkward to search for sections without a VCR counter or an electronic search device that is programmed for the particular tape. Like videodisc, videotape can be combined with computer technology to create an interactive learning program,

though tape cannot be accessed as quickly and accurately as a disc. The television monitors available for viewing videotape come in a variety of sizes, ranging from 17 to 25 inches; there are also five-foot Sony screens available through IMS which can be used for large classes. Several departments, either on their own or with the help of IMS, have produced their own tapes for use in specific courses. These and other tapes can be viewed conveniently in the classroom, lab, or at the Media Center at Odegaard Undergraduate Library.

Video Recording: When recording on videotape, it is advisable to request the services of an experienced operator or a department or course member who is familiar with the technology. Although recording equipment can be set up in the classroom, instructors frequently find it more convenient simply to bring their class to the IMS studio in Kane Hall or the model classroom at CIDR. Both units have rooms which are set up specifically for efficient video recording or playback. For instructors who wish to videotape and then view their own teaching, for example, there are many procedures available. One can record in the classroom or at an alternative site and review the tape individually, with colleagues, or

with an experienced instructional facilitator. One can be taped using split screen, which simutaneously shows the instructor--and the students responding to the instructor--on a divided screen. One may request video coaching (having an experienced facilitator giving information to the instructor through a transistorized ear piece while the instructor is actually teaching) or microteaching (having an experienced facilitator assist several instructors in a group to record, review, and comment on their own and each others' teaching).

Television is a powerful tool and individuals may have strong responses to it, especially when they view their own performance on videotape for the first time. It is therefore important that individuals who are going to be videotaped, whether they are instructors or students, be aware of the following: 1) the procedures that will be used for taping; 2) the goals that will guide instruction or training; and 3) the procedures that will be used for review or evaluation of the tapes. It is normal for individuals to be overly critical when seeing themselves on videotape; adequate preparation for using video helps participants shift their attention to a constructive assessment of the professional skills they wish to develop.

Videodisc

Interactive videodisc is a system that combines video technology with microcomputers to create programmed learning materials that can be manipulated by instructor or student. Different formats of videodiscs allow information to be accessed for straightforward viewing or randomly accessed through an interactive learning program that requires that the user demonstrate a mastery of the concepts or principles presented. One attraction of the disc technology is that very large amounts of information can be stored (i.e. thousands of slides plus videotape or other moving visuals can be combined on a disc).

A second advantage of the disc is that the data can be accessed with great ease and speed--information anywhere on the disc can be retrieved precisely, in seconds. The large storage capacity and fast retrieval is an advantage when designing interactive learning programs or large video databases. It is also an advantage in the classroom if large numbers of slides or frames must be accessed and shown quickly for purposes of comparison. Other advantages of

the disc include its durability (unlike videotape, videodiscs have a virtually unlimited lifespan) and its versatility (discs can be played in reverse or forward and at normal or slow speed, down to one video frame per second, with the capacity to display the frame indefinitely). A disadvantage of the disc is that it is costly and time consuming to produce; the cost must be amortized through distribution of copies to other users.

Videodisc systems now being used on this campus are "generic" or "dedicated." In the generic or non-programmed systems, information can be accessed in any sequence or through a number of computer programs that can be written for the data. The equipment commonly needed is the disc (which looks a lot like a phonograph record), videodisc player, video monitor (screen), and computer, though most videodisc players can access information on a generic disc without the aid of a computer.

The data on the generic disc can be accessed in any order, which makes comparison among images (i.e. slides of different types of blood cells or video segments of different kinds of physical motion) very effective. Laserdisc players can identify 54,000 frames per side according to their specific frame number, thereby allowing the

user to access any one of the frames within two seconds. In a classroom setting, the relevant sections of material can be called up according to the instructor's predetermined sequence or in response to student questions or both. The system can be used for straightforward classroom presentation of material, for structured discussion, or for exam procedures where the instructor presents information that students must correctly identify or assess.

The dedicated or programmed videodisc systems function through a computer program that requires the user to interact with the system in specified ways. To operate a dedicated system, the user frequently must add a second monitor to the system--a computer text display that gives instructions regarding the images on the disc display. This type of system allows an instructor to access some portion of the large store of information on the disc and design an individual tutorial for students to use in independent, self-paced learning. The computer can be programmed to present disc information, ask questions regarding that information, anticipate possible learner responses, and "branch" according to the response given. When the learner gives correct responses, the branch will guide the learner to the next sequence of information that must be

mastered. When incorrect responses are given, the branch will provide the learner with alternative opportunities for mastering the original material. The learner is thus given the flexibility of learning course content outside the regular classroom context and the opportunity to review the material until key concepts are mastered.

III

USING VIDEO: AN OVERVIEW

Video technology, particularly the videotape playback unit, is now widely used in college classrooms. Such technology usually is employed for only a fraction of total class time, often as a method of providing illustration or background for lecture and discussion. The use of videotape and videodisc has increased in part because the technology enhances an instructor's ability to achieve important educational goals. Such technology can help bring rare or dramatic material to the classroom, provide convenient repetition of important content, allow students to view themselves performing skills, and allow students to learn without the direct mediation of the instructor. Specifically, the use of video can provide increased opportunities for students to:

witness rare performances or events--material can be videotaped and brought into the classroom that would not otherwise be readily available to students (for example, an unusual interview with a distinguished writer, the recording of a volcanic eruption, or an historical political debate);

recognize qualities of movement or timing--video facilitates the acquisition of skills that require use of or

recognition of motion and timing (for example, the procedure of hypodermic injection, the acting of a scene from a Shakespearean play, or the diagnosis of impaired motor skills in children);

visualize change over time--by using multiple images and rapid or slow motion, video can help demonstrate change that occurs in ways that are usually difficult to see (for example, the progress of gradual soil erosion or the development of a long-term illness);

observe microscopic processes--video makes possible for large numbers of students the study of processes usually available to a few using highly sophisticated equipment (for example: observation of cell reproduction or observation of photosynthesis);

compare large numbers of cases--videodisc particularly allows for the collection and comparison of a very large variety of cases that would otherwise occur infrequently or at such diverse locations that students would have difficulty recognizing the range involved (for example, forms of cultural diversity or symptoms of some types of mental illness);

learn independently--video allows students to view material conveniently and repeatedly and get feedback on their skills as a way to gain basic course competencies or to take on the challenge of new, advanced information at their own pace (for example: learning basic math skills via an interactive video program; designing a computer program for videodisc as part of course work);

increase involvement--video provides compelling treatment of course content that enhances its natural drama and excitement and encourages the exploration and clarification of values (for example, documentaries of U.S. participation in the Vietnam War or programs concerning the development of genetic technology);

identify professional skills--students can view the taped performance of skilled role models, learning to isolate characteristics of competent professional performance in their field (for example, observation of a trial lawyer demonstrating effective advocacy skills or observation of a competent surgeon performing a difficult procedure);

practice professional skills--students can assess their own performance of various skills by having themselves videotaped in simulated professional situations and reviewing the tape with the help of their instructor, classmates or a trained facilitator (for example, students learning public speaking skills or students learning professional/client interviewing skills).

A number of faculty from widely different disciplines at this university regularly use video to achieve some variation of these instructional goals. In several departments, instructors also make use of video to improve their own teaching effectiveness. The following pages provide descriptions of how video is used by some of these instructors. In each case, specific instructional or training goals are identified as well as the strategies used to help learners achieve those goals.

For the purposes of this booklet, instances of video use on this campus are described in three general categories: 1) using video to present course information; 2) using video to teach professional

skills; and 3) using video to improve teaching effectiveness. Although these categories overlap to some extent, they do represent three distinct approaches to the use of instructional video on campus. The examples of each category, presented in the following chapters, are representative and by no means exhaustive. The particular examples selected represent a cross section of disciplines, a variety of instructional contexts, and a variety of video adaptations. The descriptions are meant to serve as helpful illustrations of the many ways video technology is an effective and convenient tool in instruction.

IV

USING VIDEO TO PRESENT COURSE INFORMATION

In the following examples, video is used to present course information in two ways: through the direct presentation of content and through the design of interactive learning programs. In the first type of use, the instructor organizes students' viewing of material on videotape or disc in the classroom, lab, or tutorial context. This use of video allows students to study phenomena not otherwise readily available to them, such as unusual or rare events. As these examples demonstrate, students also are able to use video to preview for lab or other technical work. The second type of use allows students independently to view and respond to instruction presented on interactive video disc. The student masters specific segments of material in the order programmed on the disc, repeating the instruction as often as necessary.

Sociology: Using Video to Project Research Graphics

Professor Rodney Stark uses video technology to project computer graphics in Kane Hall when lecturing to over 700 students. Sociology 110, Introduction to Sociology, provides an overview of the field, including research methods used by contemporary scholars.

Instructional goal: to give students in lecture the opportunity to participate actively in the research process.

Advantage of video: video allows students to visualize changes in populations as these changes relate to social conditions or problems.

Instructional procedure: using a computer, a ten-foot diagonal screen (RGB computer monitor feed) and sophisticated software, the instructor projects research graphics to illustrate how sociological variables function. For example, an outline map of the U.S. can be projected, then gradually filled in, state by state, to illustrate the occurrence of particular kinds of crime committed by specific groups in society. Three hundred different variables can be mapped in. Correlations and regressions can also be viewed on the screen.

Although Professor Stark has worked out the variables before presenting them in lecture, there is suspense for the students in that they cannot predict what data will emerge from testing a particular hypothesis. Even during this large lecture, students can participate actively by: closely following a

dynamic research process; suggesting variables that might be tested; and commenting on the results of testing various hypotheses.

The main advantages of using video to enlarge the computer display include: 1) all students can see and therefore participate and 2) video allows for color and motion, two characteristics that enhance a learner's understanding of the relationships among the variables studied. These two qualities also increase the enjoyment of learning. (The computer and software can also be used in a small class, in conjunction with a VCR and a 19-25" television monitor.)

Some minor problems accompany the current use of this system for large lecture. A 15-foot screen (rather than 10-foot) would be slightly better for viewing by such a large number of students. Additionally, since the lights are dimmed during lecture, students tend to talk among themselves about the data, as if they were home watching TV and commenting on a program. This interaction is valuable, but in such a large class it can have its disadvantages. One challenge of using such technology is that it heightens the usual requirements of lecture: that the instructor must be very well versed in the material and able to anticipate the types of questions students will ask. Professor Stark invites individuals who are interested in seeing how this technology works to visit his class.

Electrical Engineering: Using Video to Preview Lab

In the department of **Electrical Engineering**, students are required to complete EE 312, Electrophysics Laboratory, preferably during their third year. The purpose of the course is to give students a wide range of experience with the instrumentation of the field.

Instructional goal: to provide students with the opportunity to learn the use of a wide range of different instruments.

Advantage of video: video allows students to learn lab operations independently, viewing the material as often as necessary, thereby facilitating competence with a wider range of instruments than conventional teaching would permit.

Instructional procedure: the students are divided into six groups of two students each; the groups alternate in their study of six different lab set-ups. All six set-ups are thus used during each lab period. Instruction for each set-up is provided on videotape and can be viewed by the students before they attend the lab and use the instruments. The tapes can be viewed in Odegaard Undergraduate Library ahead of time or in the lab before the experiment is attempted. Since this type of independent instruction is available, all students are able to work with all six of the lab set-ups during the quarter.

A written course syllabus supports the videotaped instruction. During the lab itself, a TA is on site to answer individual questions. There is a faculty supervisor for the course and six faculty members have provided the instruction on the tapes. When viewing the tapes, the student is provided:

> **background and theory concerning the particular instrumentation;**
>
> **a demonstration of the use of the equipment by a faculty member;**
>
> **an illustration of the kind of data produced by using the instrument.**

Watching a tape, for example, the student can see how the oscilloscope is used correctly, can recognize the data that should be produced and can see how an adjustment on the instrument can produce a desired result. According to Professor Daniel Dow, one of the faculty supervisors for the course, the main advantage of using videotape is that students gain experience with all six instruments--it would not be possible to accomplish this during one quarter with more conventional methods of teaching. A drawback to this approach is that when using the OUGL viewing facilities, students are unable to control the playing of the tapes; students may learn more effectively if they can stop the tapes at any point and reflect on the material. Also, with this type of

instruction, the videotapes must be updated periodically as new equipment and procedures are introduced into the lab.

Instructors in Electrical Engineering also use video in EE 306, Elements of Electrical Engineering. In this course, video preview of various electronics labs is an option for students, rather than a requirement. Approximately 15% of the students, particularly non-majors, do not have the requisite skills to do the labs and therefore take advantage of the self-paced learning made possible through use of the tapes. These color tapes provide background on the experiments, demonstrate how the equipment is connected and used, and indicate what the student should observe on the instruments as each experiment is performed. The EE lab is open 30-40 hours per week and is equipped with television monitors. A written syllabus is available for the lab work, so that minimal on-site assistance is needed. When students do have questions, they are assisted by EE undergraduates who serve as proctors for the lab. Professor William Potter, one of the instructors for the course, indicates that providing the tapes helps many of the students overcome a natural reluctance to use the lab and extends students' exposure to EE faculty.

Life Sciences: Using Professional Tapes and Interactive Disc

The **Biology Learning Resource Center** houses a number of videotapes, such as tapes from the NOVA series, that can be used effectively for teaching. Several instructors from the life sciences use the tapes to present information within a lecture or lab or to encourage independent study.

Instructional goal: to provide students with relevant, detailed information in a particular content area.

Advantage of video: professional tapes allow students to see and analyze rare natural phenomena and stimulate students to ask questions about nature.

Instructional Procedures: Dr. Richard Snyder is one instructor who uses tapes from public television's NOVA series. In labs for his course in Vertebrate Natural History (Zoology 362) he shows two of the tapes, one on bird migration and another on bird song and behavior. Both are used to reinforce information presented in lecture or text and to prepare students for actual bird watching during the course. The videotapes enhance verbal, technical information by visually representing important phenomena such as bird sounds (using spectograms) or bird migrations (using radar pictures).

Professor John Edwards also makes use of videotapes for Biology 100, Introductory Biology. Students independently view selected tapes that are kept

on reserve in the Biology Study Area. As part of a final exam question, the students are required to extract key themes from the material and produce a written summary of the tape. The exercise helps students "round out" the course in a way that requires they use abstract thinking skills. Well produced tapes thus provide a valuable source of course information and a vehicle for promoting the students' own thinking about biological processes.

Students also receive instruction via the Math in Biology interactive videodisc which is on loan to the Biology Department. The disc includes ten lessons designed to teach math skills relevant in biological contexts, specifically the understanding and manipulation of fractions. The disc uses familiar visual examples so that students will gain an understanding as well as an intuitive grasp of various concepts such as percents, especially as they relate to problems in Biology. Material on the disc ranges from basic definitions to fairly sophisticated techniques. The program, modeled on a closely-guided discovery method, anticipates certain types of errors and asks leading questions. Students must master the material step by step. If a question is missed, the program and the videodisc player branch to a section where the question is broken down into smaller parts or where other steps are used to provide instruction in the same principles. Students may go back and review the earlier material when necessary.

Physiological Nursing: Using Videodisc to Compare Cases

In **Physiological Nursing**, generic videodiscs are used to teach Neurological Assessment (PN 545) and other courses. Of particular interest to instructors of neurology are videotaped segments of the discs that depict movement disorders and mentation (consciousness, speech patterns).

Instructional goal: to provide students with the opportunity to identify and assess a wide range of neurological conditions.

Advantage of video: video allows students to view, compare, and discuss a wide range of neurological characteristics in the classroom or study the same data independently.

Instructional procedure: in the small graduate course, the discs are used to show normal and abnormal neurological function, such as the ambulatory ability of actual patients who have been videotaped. Before viewing the taped segments on the discs, students read about various conditions and their assessment. When viewing the disc, students construct descriptions of the conditions and practice assessment through class discussion.

According to Professor Marci Catanzaro, there are distinct advantages to using the discs. During viewing, the instructor can skip around to different segments of the disc instantly, making comparison of cases very efficient. Students see a wider range of patients with neurological deficits than would be

available to them on hospital rounds. Also, when viewing the discs, students can talk openly about patients' conditions and critique each others' assessments--two instructional activities which cannot occur in the presence of the patients.

The discs are also used in a number of other instructional contexts in Physiological Nursing. For example, the discs are used in exam sessions where students observe a segment, then chart the movement disorder. Students are tested for the ability to recognize, diagnose, analyze, and evaluate. Because students are able to view a greater range of patients (including a greater range of normal patients), and are able to practice assessment, their charting in the clinical situation has improved. Also, the discs are used in workshop discussions to teach Care Planning skills. Students view a patient and receive information concerning their own case load; from this information they determine the patient's needs and the type of care they can reasonably offer. In addition, the discs provide a convenient way for students to review material on their own outside of class time.

School of Business: Using Video to Preview Computer Lab and Dramatize Critical Situations

The **School of Business** has produced its own videotape to introduce students to computer technology appropriate to research in their field (Quantitative Methods, BA 471).

Instructional goals: to prepare students to use available computer technology effectively.

Advantage of video: video allows students to see the relevant technology in operation and ask questions beforehand that will save time when they use the actual equipment.

Instructional procedure: the 24-minute color videotape, "Introduction to the HP 3000 Computer" is shown during one class period of the methods course. The tape shows where the computer is located and how the room is structured. The tape also shows what the computer terminal looks like and demonstrates how to "log on." The instructor can leave the tape on "pause" for several minutes as students study a particular frame. According to Professor Jerry Sullivan, the tape provides an effective form of preparation for students. All students are simultaneously provided with a detailed and realistic visual representation of how the technology functions. Showing the tape is a more

efficient and less tedious use of class time than trying to accomplish the same instruction using lecture.

Among the many other uses of video by Business instructors is the showing of another tape produced by the School for the Business Communication course (AdOrg 301). The tape illustrates the kinds of problems that can occur when an auditor ineffectively interviews a client. Actual professionals realistically dramatize these situations and students viewing the tape take the role of critical observer. Students submit a written report of their observations, including suggestions of alternative strategies interviewers can employ. By dramatizing the bad examples, instructors hope to motivate students to recognize and avoid ineffective interview procedures.

V

USING VIDEO TO TEACH PROFESSIONAL SKILLS

A second purpose for which video is used on this campus is the teaching of specific professional skills. In this use of video, students have the opportunity to be taped, view their performance, and receive constructive feedback. To facilitate student acquisition of skills, many instructors have adopted some variation of the following procedures:

identify relevant professional skills;
present models of good skill performance;
supervise student practice of relevant skills;
supervise videotaping of student performance;
provide students with constructive feedback.

As the following examples demonstrate, video technology allows students, within a carefully supervised environment, to view themselves as other professionals will view them. The use of video thus provides a unique and vivid opportunity for students to practice aspects of the role they will later assume.

School of Law: Using Video to Teach Trial Advocacy

The Law School Trial Advocacy Program makes use of videotaping to train third-year students in effective courtroom advocacy skills. In the presence of experienced attorneys, students are taped as they perform the role of trial lawyer in a mock courtroom that also includes witnesses, judge, jury and court recorder.

Instructional goal: to give students direct experience practicing advocacy skills in a simulated judicatory setting.

Advantage of video: the combination of viewing taped models and critiquing their own performance provides students with immediate, thorough, and personal information concerning their own skills.

Instructional procedure: in teaching the course, law instructors use techniques and materials developed by the National Institute for Trial Advocacy. Over the course of the quarter, lectures and class discussions provide information on particular aspects of trial work. Students observe live demonstrations by practicing lawyers. The students prepare to practice particular skills, such as presenting an opening statement or conducting a line of questioning for a mock case. In groups of ten, students are videotaped practicing the skills in a mock courtroom setting, and receive immediate feedback from the experienced lawyers present. The students may receive instruction during the performance as well as

observers' comments immediately afterwards. Students may additionally review their tapes by themselves or with an experienced lawyer. The students are taped each week and tapes are saved for their use for three weeks; then the tapes are re-used.

Attorney Mike Reiss believes students are more convinced about aspects of their performance when they see themselves on videotape--some aspects of an observer report simply don't "register" effectively with the student. Also it's difficult for an observer to include all the information the student may find useful. The use of simulated cases is helpful as well. The legal issues raised can be more complex and varied than students might experience with real cases that tend to repeat the same issues. Finally, exceptional performances by the practicing lawyers who provide the demonstrations can be videotaped and preserved for future instruction.

The drawbacks of this training are that there is a certain flatness to television--real life demonstrations of advocacy are still better. The training can be expensive and administratively burdensome. Also, ideally, instructors in the course would be able to view all the tapes; this is not feasible for the present program.

Speech Communication: Using Video to Teach Public Speaking

In the **Department of Speech Communication**, videotaping is used routinely in the introductory public speaking course (SpCm 220) in which students learn to organize and deliver effective presentations.

Instructional goal: to provide students, within the normal classroom setting, with an opportunity to gain important information about their speaking.

Advantage of video: viewing themselves early in the course allows students to see how they appear when speaking to others and therefore affords them opportunity and incentive to learn necessary skills within the remainder of the course.

Instructional procedure: each student gives four 8-10 minute speeches during the quarter, at least one of which is videotaped. Students receive information that prepares them for the "shock" of seeing themselves on tape and encourages them to take best advantage of the medium. The classroom is equipped with wall-mounted remote cameras, helping to produce a good tape of the speaker with minimal interference in the classroom. After speaking and fielding questions, each student receives immediate oral feedback from the instructor and other students. The student may then individually view the videotape at Odegaard Undergraduate Library while it is held there for 48 hours. Typically, the student is expected to submit a written critique of the speaking

after viewing the tape. Each student also receives a written critique and grade from the instructor, which may also take into account the student's ability to evaluate his or her own performance.

Professor John Campbell, Coordinator for the course, sees the use of video as a consciousness-raising device. Viewing their own tapes allows students to see how they come across to others and speeds up the process by which they recognize their strengths and limitations as speakers. However, it is important that the instructor provide adequate guidance so that students do not over-react to seeing themselves on tape or become too critical of minor flaws in their performance. Generally students appreciate the videotaping and recommend its use.

Although Professor Campbell sees the videotaping as helpful, he cautions his instructors that it cannot do the most important part of the teaching job. In this particular use, video playback helps students learn a craft, but it does not raise the important questions concerning their personal and public responsibility as speakers. Students may see the videotaping as an end in itself; it is the instructor's job to raise important questions about the role of speaking in public life and help students place the use of technology in its proper perspective.

School of Social Work: Using Video to Teach Interviewing and Counseling

One use of videotaping in the School of Social Work is to teach interviewing or counseling skills as part of an introductory methods course (SW 529) for first-year graduate students. Because of its successful application in the early course, Professor Judy Kopp has extended the videotaping procedure to the training of students during their first year field placement in coordinated practice methods and practice evaluation courses (SW 530/531 and 594/595).

Instructional goal: to provide students with: 1) models of effective interviewing and 2) immediate feedback concerning their own skills.

Advantage of video: using video critique teaches students valuable skills of professional self- evaluation as well as prepares them to anticipate and perform their role with clients effectively.

Instructional procedure: the videotape training for beginning and advanced graduate students is based on structured learning formats that have been empirically tested and found to be successful for teaching new skills (Ivey and Authier, 1978). The specific skills to be learned, such as using open-ended questions, paraphrasing, and summarizing, are first defined and discussed through lecture and printed materials. Students then view videotaped models of appropriate performance of each of the skills, and pairs of students practice each

skill briefly. Students form small work groups of four to practice the skills in simulated interviews. Each student is videotaped practicing the role of interviewer while another student takes the role of the client. When in the role of client, students discuss an actual problem they have rather than role-playing a fictitious client. The four students view their own taped performances and those of their peers in small group feedback sessions. They examine and evaluate their performances, using rating forms provided in the course. A final videotaped interview is conducted by each student. This tape is rated by the interviewer, a peer in the class and the instructor. The mean of these three judgments is part of each student's final grade. According to Dr. Kopp, the use of video offers several instructional advantages in the teaching of interviewing or counseling skills:

> students can set their own learning goals and the comparative viewing of earlier and later tapes can be very reinforcing to them as they seek to master skills;
>
> having students view and critique their own tapes avoids both the defensiveness that is often created when an observer gives direct feedback and the potential for error in observer's retrospective accounts of performance;
>
> videotaped practice helps students build confidence in their skills before they are actually working with clients who may be suffering from severe problems;
>
> working with videotape helps students become accustomed to the process evaluation (including self-evaluation) and gives them experience with a technology they may use with future clients interested in learning or refining specific interaction skills and with practitioners should the students become supervisors.

Professor Kopp also indicated several concerns or issues that arise in using videotape for instruction:

> since the student "client" in practice sessions is discussing a real problem, there are issues of personal risk and confidentiality that must be understood clearly by students as they work with each other;
>
> when taping students during field placement, it is necessary to obtain both agency and client permission;
>
> the use of this type of training can be expensive, time-consuming and emotionally draining. Logistically, it would be difficult without a departmental video lab.

Two research questions now being explored by Dr. Kopp include:

1. How well do students maintain learned skills as they function in professional practice?
2. Are those learned skills the most effective in actually helping clients?

School of Dentistry: Using Video to Teach Patient Management Skills

In the **School of Dentistry**, one of the applications of video is in Pedodontics 531, Review of Patient Leadership in Pediatric Dentistry. As part of the course, students are videotaped during a session with a child; the video provides one basis on which students can identify and assess thier own skills in managing the child patient.

Instructional goals: to provide students with the opportunity to learn a systematic approach to managing patients and to have students develop skills for giving objective, specific feedback on their own and others' performance.

Advantage of video: through actual practice and critique, students learn important communication skills that cannot be conveyed exclusively through written or lecture information.

Instructional Procedure: after instructors have reviewed and provided models of effective child management through readings, lectures, and seminars, all students are videotaped conducting one session with a child. Students are evaluated according to how well they critique their performance and that of a partner. The critique of either tape may include an overall summary of the tape and an evaluation of the student and patient behavior. Students are

guided in their analysis by a set of communication categories important to patient management, which includes giving directions, asking appropriate questions, setting goals, and providing reassurance.

Students also have the option of using the video practice technique within a group format, where they receive more varied and comprehensive feedback. Other possibililties within the department include the use of video coaching. In this procedure, an instructor can watch a student on a TV monitor in a separate room while the student works with a child. The instructor can give feedback instantaneously via a transistorized ear plug the student is wearing.

Dr. Peter Domoto indicates that the course has received high ratings from students and the procedure emphasizes the relatively recent importance given to the dental professional's management of children. One difficulty is that this particular application of video is very labor intensive and instructors cannot view all the tapes with the students. It is important that course materials prepare the students to analyze and critique their own performance effectively.

School of Communications: Producing Video as a Course Assignment

In the **School of Communications,** students are required to produce their own videotapes for CMU 358, Television News Reporting and Editing. The five-credit course occurs late in the Broadcast Journalism curriculum and students are expected to integrate previously learned as well as new material in the production of news stories. Although this use of video does not involve students being taped, the example is included here because it involves the video critique of student work.

Instructional goal: to provide students with hands-on experience in reporting that reflects principles of good broadcast journalism.

Advantage of video: there is no substitute for students' actual production of a videotape when they are learning broadcast journalism.

Instructional procedure: student production of a final news report comes at the end of a systematic course sequence. The criteria for good journalism are articulated in lecture and in discussions of professional news programs that are available on tape. Students observe in the field as the instructor shoots a news story, using one of the students as a reporter. The students each choose a story idea and attend a two-hour workshop, taught by a TA, on how to use all equipment. (Equipment consists of 3/4" battery-operated

video cameras, recording units and 3/4" tapes.) In groups of four, students practice shooting a story. They attend a two-hour editing session, also taught by the TA, before they practice with the editing equipment.

As a required course assignment, the students individually produce two news stories during the quarter. The first (one minute, 30 seconds) is shown to the entire class and orally critiqued by the instructor. Students also receive private written feedback from the instructor. The second and final production (one minute, 45 seconds) is required to be a more substantive story and is expected to reflect students' greater experience.

The course instructor, Professor Richard Labunski, believes the primary advantage of requiring the production is that students gain experience and a sophistication concerning broadcast reporting that is not otherwise available. That experience shows in the later production and in the students' increasing ability to critique professional broadcast reporting.

However, as with some other applications of video for instruction, student productions are labor intensive for all concerned. It is difficult to include this entire sequence of course work within a ten-week period. Another problem is that students must sometimes work with equipment that is outdated. At all times, the equipment must be maintained, scheduled, and made secure, which means administrative time spent by the instructor as well as those in charge of

the equipment pool (in this case, Instructional Media Services). Dr. Labunski therefore emphasizes the importance of students receiving clear, effective training concerning the use and care of equipment.

VI

USING VIDEO TO IMPROVE TEACHING EFFECTIVENESS

At the University of Washington, video technology is used to improve teaching effectiveness in a variety of ways. This booklet focuses on two general approaches: 1) showing professionally produced videotapes about teaching and 2) videotaping instructors to provide feedback or facilitate instructor self-critique.

The examples on the following pages illustrate the use of both approaches. An example of the first approach is Professor Jackson's use of the videotape, "The Role of the Graduate Teaching Assistant," as part of TA training in the department of Geography. Three examples of using video to facilitate instructor feedback and self-critique are also included: the use of video critique by an instructor in Biochemistry; the use of video coaching by an instructor in the EOP program in Freshman English; and the use of microteaching as part of a required course for TAs in Sociology.

Geography: Showing a Professional Tape for TA Training

The 36-minute color videotape, "The Role of the Graduate Teaching Assistant," was produced at the University of Washington and features actual Teaching Assistants in the Life Sciences, Interdisciplinary Writing, Chemistry, Anthropology, and Genetics. The tape is shown as part of a quarter-long, required training program for TAs assigned to Geography 100, Introduction to Geography. The class of 470 students meets three times a week for lecture, and twice weekly in quiz sections taught by the TAs.

Training goal: to identify effective ways for instructors to facilitate discussion in quiz section and encourage more direct, active participation by students in the course in general.

Advantage of video: especially for new TAs, video establishes the immediacy of teaching and increases the involvement of those participating. The variety of disciplines represented allows for comparison of TA roles on campus and helps stimulate discussion about the responsibilities of being a TA.

Training procedures: the videotape is shown during an early session of TA orientation prior to the start of Fall Quarter. Professor Doug Jackson, faculty member in charge for the course for Fall, scheduled the session during the preceding Spring with the help of Don Wulff, Instructional Design Specialist at the Center for Instructional Development and Research (CIDR).

For the training, Wulff lectured on goals for TAs and facilitated discussion following the showing of the tape. All five segments (on lecturing, leading discussion, directing lab, grading, and tutoring) were shown and the relevance of each skill for teaching Geography discussed. In the training session, emphasis was placed on the ability of TAs to clarify lecture material and encourage student participation through the use of effective questioning. The use of the videotape complemented additional training on identifying teaching goals and using student writing projects which occurred later in the quarter.

According to Professor Jackson, the focus on good teaching by TAs in the quiz sections has improved this large lecture course. The TAs are bringing the students more actively into the learning process and are helping provide a more systematic and integrated course. The response of the students has been uniformly positive and the response of the TAs has been to insist that the training program be continued. The showing of a videotape that raised important issues about instruction was one element of a well planned and continuous form of training for Teaching Assistants.

Bioengineering: Using Video Critique To Improve Discussion

When using video critique, an instructor identifies specific teaching goals or concerns and then has a class session of his or her normal teaching videotaped. The instructor reviews the tape with a trained facilitator, identifies strengths and areas needing improvement, and discusses strategies for improvement. As in many video training procedures, the instructor takes the lead in deciding what aspects of the teaching should be discussed. The instructor may decide to tape additional class sessions to compare later teaching with that shown on the original tape.

Professor Marie Cantino used this technique to examine her teaching effectiveness in Bioengineering 510, Scientific Communication Skills. The course, newly developed for graduate students, focuses on the written and oral communication of technical information. As part of the class, students are routinely videotaped giving scientific presentations; in this instance the instructor decided to have herself taped as well.

Training goal: to improve lecture delivery and other instructional skills and to participate in the same process students in the course have experienced.

Advantage of video: the instructor can take the students' perspective and see how information is being presented in class and how other students are responding to the information.

Training procedure: Professor Cantino was videotaped giving a 35 minute lecture to her class of 25 graduate students. She was taped in Parrington 203, the CIDR facility which is set up to look like a regular classroom, but is equipped with unobtrusive, wall-mounted cameras and recording equipment that is operated from an adjoining room. The lecture was on scientific and thesis writing, during which the instructor used an overhead projector. Tape was provided both of the lecturer and the students as they were listening. Professor Cantino viewed the tape later with another instructor in the course and a Staff Associate from CIDR. She was first to comment after viewing the tape, particularly noting teaching concerns she had already identified. The other viewers then added their comments.

Professor Cantino was able to confirm that she was presenting information at the appropriate level for students. She, like many instructors who use video, gained increased confidence from seeing the strengths of her presentation. She has become aware of how she can more effectively and informally encourage discussion from students.

English as a Second Language: Using Video Coaching

Video coaching, an adaptation of video critique, provides instantaneous feedback to the instructor while he or she is teaching. This occurs through use of a transistorized ear plug worn by the instructor during teaching; signals are given to the instructor by a facilitator observing the teaching on a video camera from another room. The procedure is straightforward: the instructor and facilitator agree on the type of comments the facilitator will make while observing (such as a signal to pause longer after asking a question); during regular classroom teaching, the instructor wears the earplug and receives immediate feedback concerning teaching skills specified in advance; the instruction is videotaped and can be reviewed by the instructor and facilitator later (while the "coaching" is not audible to students, it is audible on the resulting videotape).

Virginia Chappell, an instructor at the **EOP Instructional Center**, has used video coaching to improve her effectiveness in teaching English 103, the ESL class for EOP students. The course is a pre-freshman composition class and all students are non-native speakers of English.

Training goal: to help the instructor create an improved class atmosphere, making it easier for ESL students to participate.

Advantage of Video: video coaching systematically helps the instructor to: see what is happening in the classroom, connect specific behaviors to abstract teaching goals, modify teaching, and assess immediately how well the modification works.

Training procedure: After discussing her course content and instructional goals with an instructional facililtator, Ms. Chappell was videotaped during one of her typical ESL classes so that a "baseline" tape could be produced. With an overall goal in mind of increasing student participation, she viewed the tape with the facilitator to determine which teaching strengths and weaknesses should be designated for attention. During the subsequent video session, when she was requesting participation or listening to students, she was prompted to increase her smiling and nodding. These behaviors replaced the more strained, frowning behavior that the first video had revealed and that appeared to intimidate reticent students. She also attempted to use fewer verbalized "fillers" in her own speech. Ms. Chappell found the video coaching technique very useful. She has seen how her modified behavior puts students more at ease and results in increased class participation.

Sociology: Using Microteaching in TA Training

Microteaching, a technique for training teachers which was originally developed at Stanford, involves a sequence of three procedures: teach, review, and re-teach. Several instructors are videotaped in a practice session outside the regular classroom; each instructor provides a brief segment of teaching that focuses on a specified skill such as lecturing or asking questions. Immediately after each brief teaching segment, the instructors view the videotape and the person on tape is the first to offer comments. He or she takes the lead in identifying teaching strengths or suggesting strategies for improvement. Others present may offer their constructive feedback as well. The instructor then has the opportunity to "re-do" the teaching segment, experimenting with suggested changes. An experienced instructional facilitator can help ensure that the process is conducted effectively.

Several adaptations of this procedure are used to improve teaching at the University of Washington. Microteaching is used in the **Department of Sociology** to train new Teaching Assistants during TA Orientation and during the fall teaching pro-seminar.

Training goal: to provide the opportunity for instructors to view their own teaching from a learner's perspective.

Advantage of Video: instructors practice specific skills and receive feedback most relevant to their individual teaching needs.

Training procedures: during Orientation, all new TAs have the opportunity to be videotaped giving a brief lecture. They participate in one of two groups led by an experienced facilitator. During the first part of the session, each TA is videotaped. After a break, the second part of the session begins and each TA's tape is reviewed following accepted microteaching procedure: the TA on tape is the first to comment; the first comments by the TA must focus on the positive aspects of the lecturing (a procedure designed to overcome the natural inclination of individuals to be overly critical when first seeing themselves on tape); other members of the the group can then offer constructive comments concerning the relevant teaching skills. Because of time constraints, participants cannot do a re-teach. The advantage of the microteaching session before school starts is that it places TAs directly in the teaching role and gives them helpful information before they enter the classroom. The department uses a different adaptation of microteaching in the quarter-long pro-seminar on teaching, a course required of any graduate student who wishes to teach.

VII

A WORD OF CAUTION

Instructors using videotape and videodisc to enhance teaching should be aware of the problems that arise with these and similar technologies. Using video frequently involves copyright or human subjects restrictions that must be observed. Video is a powerful medium and instructors need to exercise caution, particularly when taping students who may not be prepared for the "shock" of seeing themselves on a television monitor. On the other hand, students may sometimes perceive the use of video as simplistic or irrelevant when it is not applied effectively. Poor planning or follow-up can result in video applications that are disappointing or costly. These kinds of problems can easily be avoided when instructors are aware of precautions they should take during the planning, implementation, and follow-up stages of video application discussed here. Instructors can obtain additional, detailed information concerning video application by contacting university staff at the Center for Instructional Development and Research

(CIDR), Health Sciences Center for Educational Resources (HSCER), and Instructional Media Services (IMS).

Planning

Secure required permission. To avoid legal penalty, instructors should make sure they have secured the permission required for copying or showing existing materials or producing new material. For example, to copy existing slides, film, music, or videotape for instructional purposes, it is necessary that the user has secured permission from the original producer. Only in the case of material considered "public domain" is this requirement waived. With technology such as the VCR making it so easy to copy material, the step of requesting permission to use the material is sometimes neglected. Or, the original producer is not recognized when the material is shown in the classroom. To avoid frustrating delays or possible legal problems, instructors should determine early in their planning stages whether they need to obtain permission to copy or use the material they have selected.

When using videotape to teach professional skills or to otherwise show individuals as examples or models, instructors

should make sure permission has been obtained from the participants. It is necessary to obtain written release from any individual being videotaped, including permission to use the videotape for showing to others if such use is expected. Especially when videotaping to teach professional skills or improve teaching effectiveness, it is important that permission is obtained in advance of the session and that all participants understand exactly how their tapes will be used--lack of clarity about this point can lead to unnecessary anxiety or result in an unnatural performance. In many microteaching sessions, for example, videotapes of brief teaching segments are erased at the end of the session so that the tapes can be used again. In other sessions, tapes may be saved by the participants so they can make later comparisons. Participants should be clear about all such procedures so they are concentrating on the skills they wish to learn or improve rather than worrying about the videotaping process itself.

Identify clear objectives. Whether they are using existing material or producing new material, instructors can save valuable time and avoid disappointing results by clarifying their instructional or training goals carefully before pursuing a particular video

application. This type of preparation gives instructors a basis for: 1) determining that video is actually the best instructional tool to use; 2) designing an effective procedure for using video instruction; and 3) evaluating the use of video as an in instructional tool. Careful planning is particularly important when instructors wish to embark on production of a new project, such as creation of their own tape or disc for classroom use. Video users frequently attempt to begin at the production stage of their project rather than at the design stage, a situation that can lead to costly delays or mistakes. Instructors can obtain valuable assistance concerning the design and implementation of video applications from experienced staff at CIDR or HSCER.

Implementation

Provide supervision. Although some technology is designed for independent learning, most video applications still require specific instructor or facilitator supervision. Adequate supervision will reduce the chances that video is perceived by students as a gimmick or simply as classroom "filler." Supervision may consist of a structured set of questions or a research format for

students viewing video individually. In the classroom, instructors should be prepared to guide systematic discussion with students following a video presentation. Good supervision is especially important when individuals are videotaped as part of learning professional skills or improving teaching effectiveness. Participants can be overly critical when initially seeing themselves on video and unaware of the positive aspects of their performance. Participants may feel especially vulnerable to criticism in group critique sessions such as microteaching. There are a number of specific procedures instructors can use to introduce participants effectively to the videotaping process and ensure that they use it constructively. Detailed information on using such procedures is available from CIDR and from instructors who regularly use videotaping to teach professional skills. In addition, the CIDR staff includes experienced facilitators who now assist instructors using video in a variety of departments.

Test equipment function. Even when video equipment has been ordered and set up in advance, it is not ready to be used in an instructional session until it has been tested for picture and, when appropriate, sound. It is extremely frustrating for instructors to plan

a session around the use of video and then find they are missing a vital piece of equipment, are working with a damaged tape, or are short of the necessary electrical outlets in the classroom. Most minor equipment problems can be identified in a brief test and resolved before the equipment is actually used for instruction.

Follow-up

Evaluate effectiveness. Video applications are not meant to be classroom entertainment--though students sometimes perceive that is why video is used. Video applications are meant to contribute substantively to an ongoing program of instruction. Therefore, it is important that instructors assess the effectiveness of video applications in meeting their instructional goals. Among the avenues open for gaining such information are: 1) feedback from students regarding the effectiveness of using video and 2) assessment of student learning when video is applied. For some types of course content, video may be more effective than conventional teaching methods because it gives students the kind of resources they would not otherwise have. Students using video to

view unique or rare events, to compare large numbers of cases, or to visualize their own skills are examples of such resources.

For other types of course content, video may be simply as good as conventional methods. Students using video on their own to learn basic skills or preview technical equipment are examples of such an application. In these cases, the advantage of video may be that it gives students greater opportunity and flexibility to learn independently and enhances their ability to take advantage of regularly scheduled classroom instruction. Whatever the goal, it is important that instructors determine which procedures for using video will actually lead to the most effective results.

VIII

CAMPUS RESOURCES

Several units at the University of Washington have staff who can assist individuals to produce video or evaluate its usefulness for achieving instructional goals. Those units include:

Center for Instructional Development and Research (CIDR)
107 Parrington, 543-6588

CIDR is a service and research unit that functions as a resource clearinghouse for instructional problems or issues. The resources available for instructors who plan to use video include:

written materials concerning the production and use of video technology;

videotapes concerning effective teaching;

staff consultation in instructional design, in the production of video, and in numerous areas of video research and application;

staff facilitation in the videotaping of instructors for self-critique; and

facilities for videotaping and viewing tapes of classroom teaching.

Health Sciences Center for Educational Resources (HSCER)
T252, Health Sciences, 545-1156

The HSCER provides assistance in design and production of videotape and videodisc materials to university instructors and to professionals in the community outside the university. Instructors can receive help ranging from the initial layout of a project to its completion and distribution. The services include:

a catalogue, available for purchase, of the tapes and discs produced by the Center ;

instructional design consultation and production assistance by staff specializing in instructional development; and

consultion and assistance for distribution following the completion of projects.

Instructional Media Services (IMS)
35 Kane, 543-9900

IMS provides a number of production and equipment services for individual instructors or groups of instructors interested in using video. Services, particularly quality color production support, must be requested well in advance. Instructors may receive support in video design and instructional design, but should have their teaching goals clarified before seeking production assistance. The IMS video services include:

video production (in the studio, on campus, or off campus);

equipment (a variety of equipment instructors can request for use on campus);

operator assistance (setting up and operating equipment in classrooms); and

facilities for viewing videotapes or videodiscs.

Odegaard Undergraduate Library Media Center
Mezzanine, OUGL, 543-6051

The OUGL Media Center houses a collection of videotapes and videodiscs that can be reserved by instructors or students and several facilities, including individual carrels or classroom-size rooms, for viewing video on available equipment. Available services include:

a catalogued collection of video materials that can be viewed and reserved;

a system for instructors to provide or reserve tapes for students to view;

facilities for using equipment (carrels and small or large rooms); and

equipment (for viewing tapes or discs on small or large screens).

Some other departments or units where video is applied or is the topic of research in instruction include:

Cablearn (Educational Access Television; includes taping of live classroom for distribution off campus; contact Coordinator Ann Suter, 3-2300)

College of Education (research, application, and evaluation of video as an educational technology; contact Professor Stephen Kerr; 3-1877)

Engineering (Televised Instruction; contact Professor Endrik Noges; 3-2150)

English (videotapes of films have been used to permit detailed film analysis; contact Professor Leroy Searle, 3-4218)

Political Science (videotaping to improve instructional skills; contact Gail Wilkie; 3-9456)

Psychology (videotaping for instruction, for research, and for practicing presentation skills; contact Craig Raglund)

School of Art (video is being developed in the Photography Program in conjunction with a computer video digitalizing system; contact Professor Paul Perger, 3-1714)

School of Drama (development of interactive video for instruction; contact Professor Jack Wolcott; 3-5140)

School of Medicine videotaping of interviewing and history taking skills in Clinical Medicine; contact Professor Gabriel Smilkstein; 3-9425)

Speech and Hearing Sciences (videotaping in undergraduate clinical practicum courses; contact Professor Lesley Olswang, 5-2997).

REFERENCES

Anderson, R. H. (1983). *Selecting and developing media for instruction.* (2nd ed.) New York: Van Nostrand Rienhold Company.

Armsey, J. W., & Dahl, N. C. (1973). *An inquiry into the uses of instructional technology.* New York: The Ford Foundation.

Ivey, A. & Authier, J. (1978) *Microcounseling: Innovations in interviewing, counseling, psychotherapy and psychoeducation.* Springfield, Illinois. Thomas.

Bloom, J. M. (1969). Videotape and the vitalization of teaching. *The Journal of Teacher Education, XX,* 311-315.

Brodeur, R. A. (1985). Interactive video: A formative evaluation (part two). *Educational Technology.*

Clark, R. E. (1983). Reconsidering research on learning from media. *Review of Educational Research, 53,* 445-459.

Fuller, F. F., & Manning, B. A. (1973). Self-confrontation reviewed: a conceptualization for video playback in teacher education. *Review of Educational Research, 43,* 469-528.

Greenfield, P. M. (1984). *Mind and media.* Cambridge: Harvard University Press.

Hargie, O. D. W., & Saunders, C. Y. M. (1983). Training professional skills. In P. W. Dowrick & S J. Biggs (Eds.), *Using Video* (151-165). New York: John Wiley & Sons Ltd.

Kerr, S. T. (1985). Videotex and education: Current developments in screen design, data structure, and access control. *Machine-Mediated Learning,1,* 217-254.

Percival, F. & Ellington, H. (1984). *A handbook of educational technology*. London: Kogan Page Ltd.

Perlberg, A. (1970). Microteaching: A new procedure to improve teaching and training. *Journal of Educational Technology, 1*, 35-43.

Reiser, R. A., & Gagne, R. M.(1982) Characteristics of media selection models. *Review of Educational Research, 52*, 499-512.

Romiszowski, A.J. (1974). *The selection and use of instructional media*. New York: John Wiley & Sons Ltd.

Salomon, G.(1979). *Interaction of media, cognition and learning*. San Francisco: Jossey-Bass Publishers, 1979.

Staton-Spicer, A., & Nyquist, J. (1979). Improving the teaching effectiveness of graduate teaching assistants. *Communication Education, 28*, 199-205.